

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method of Edge-Node Interleave Sort for Leaching and Envelop (ENISLE), comprising:

mapping a circuit into a *V-E* plain to transform a circuit information into said *V-E* plain which contains the information of node and edge information, Wherein said *V* indicates nodes that represent components of said circuit and wherein said *E* indicates edges that represents the nets of said circuits;

determining whether *V-E* pairs distribution on said *V-E* plain is uniformly or not, if said *V-E* pairs distribution approaching to non-uniformly distribution, then randomizing said *V-E* pairs on said *V-E* plain, otherwise performing following steps for sequentially arranging allocations of the *V-E* pairs according to the magnitude of each said node or said edge, thereby obtaining min-cut or/and ratio min-cut partitioning;

performing a first sorting step from an edge view based on a first side of said *V-E* plain;

performing a second sorting step from an node view based on a second side of said *V-E* plain;

performing a third sorting from said edge view based on a third side of said *V-E* plain; and

performing a fourth sorting step from said node view based on a fourth side of said *V-E* plain.

2. The method of claim 1, wherein said first side refers to a bottom side of said *V-E* plain.

3. The method of claim 1, wherein said second side refers to a right side of said *V-E* plain.

4. The method of claim 1, wherein said first side refers to a top side of said *V-E* plain.

5. The method of claim 1, wherein said first side refers to a left side of

said *V-E* plain.

6.The method of claim 1, further comprising following steps after performing said fourth sorting:

initializing node set record ;

performing a fifth sorting step from said node view based on the second side;

performing a sixth sorting step from said edge view based on said first side/third side;

determining whether said node set is still interchanged or not? If said node set is no longer interchange then go back to perform said fifth sorting step, otherwise, performing a seventh sorting step from said node view based on said fourth side;

determining whether said node set still interchange or not? If said node set is still interchange, then performing said fifth sorting step for achieving an optimal min-cut or ratio min-cut partitioning.

7.The method of claim 6, wherein said first side refers to a bottom side of said *V-E* plain.

8.The method of claim 6, wherein said second side refers to a right side of said *V-E* plain.

9.The method of claim 6, wherein said first side refers to a top side of said *V-E* plain.

10.The method of claim 6, wherein said first side refers to a left side of said *V-E* plain.

11.A method for min-cut and/or ratio min-cut partitioning, comprising:

mapping a circuit into a *V-E* plain to transform a circuit information into said *V-E* plain which contains the information of node and edge information, Wherein said V indicates nodes that represent components of said circuit and wherein said E indicates edges that represents the nets of said circuits;

performing following steps for sequentially arranging allocations of the  $V$ - $E$  pairs according to the magnitude of each said node or said edge, thereby obtaining min-cut or/and ratio min-cut partitioning;

performing a first sorting step from an edge view based on a first side of said  $V$ - $E$  plain;

performing a second sorting step from an node view based on a second side of said  $V$ - $E$  plain;

performing a third sorting from said edge view based on a third side of said  $V$ - $E$  plain; and

performing a fourth sorting step from said node view based on a fourth side of said  $V$ - $E$  plain.

12. The method of claim 11, further comprising determining whether said  $V$ - $E$  pairs distribution on said  $V$ - $E$  plain is uniformly or not, if said  $V$ - $E$  pairs distribution approaching to non-uniformly distribution, then randomizing said  $V$ - $E$  pairs on said  $V$ - $E$  plain.

13. The method of claim 11, wherein said first side refers to a bottom side of said  $V$ - $E$  plain.

14. The method of claim 11, wherein said second side refers to a right side of said  $V$ - $E$  plain.

15. The method of claim 11, wherein said first side refers to a top side of said  $V$ - $E$  plain.

16. The method of claim 11, wherein said first side refers to a left side of said  $V$ - $E$  plain.

17. A method for min-cut and/or ratio min-cut partitioning, comprising:  
mapping a circuit into a  $V$ - $E$  plain to transform a circuit information into said  $V$ - $E$  plain which contains the information of node and edge information, Wherein said  $V$  indicates nodes that represent components of said circuit and wherein said  $E$  indicates edges that represents the nets of said circuits;

determining whether  $V$ - $E$  pairs distribution on said  $V$ - $E$  plain is uniformly or not, if said  $V$ - $E$  pairs distribution approaching to non-uniformly distribution, then randomizing said  $V$ - $E$  pairs on said  $V$ - $E$  plain, otherwise performing following steps for sequentially arranging allocations of the  $V$ - $E$  pairs according to the magnitude of each said node or said edge, thereby obtaining min-cut or/and ratio min-cut partitioning;

performing a first sorting step from an edge view based on a first side of said  $V$ - $E$  plain;

performing a second sorting step from an node view based on a second side of said  $V$ - $E$  plain;

performing a third sorting from said edge view based on a third side of said  $V$ - $E$  plain;

performing a fourth sorting step from said node view based on a fourth side of said  $V$ - $E$  plain;

initializing node set record ;

performing a fifth sorting step from said node view based on the second side;

performing a sixth sorting step from said edge view based on said first side/third side;

determining whether said node set is still interchanged or not? If said node set is no longer interchange then go back to perform said fifth sorting step, otherwise, performing a seventh sorting step from said node view based on said fourth side;

determining whether said node set still interchange or not? If said node set is still interchange, then performing said fifth sorting step for achieving an optimal min-cut or ratio min-cut partitioning.

18. A method for display data compression techniques by different light intensity and/or different patterns on a monochrome viewpoint, comprising :

displaying ( $V$ ,  $E$ ) pairs on an initial  $V$ - $E$  plain shown on a monitor screen to observe the said initial ( $V$ ,  $E$ ) pairs distributed condition, wherein said  $V$  indicates nodes that represent components of said circuit and wherein said  $E$  indicates edges that represents the nets of said circuits;

setting  $L$  nodes  $\times$   $W$  edges  $(V, E)$  pairs rectangle region to compose a block, wherein said  $L$  and  $W$  are integers;

defining the more  $(V, E)$  pairs in said block to be displayed by the relatively high light intensity to the less  $(V, E)$  pairs in said block; and

watching relatively large size of  $V-E$  plain or a whole  $V-E$  plain to said initial  $(V, E)$  plain on said monitor screen, wherein said exact  $(V, E)$  pairs positions still be held, thereby zooming in said  $V-E$  plain to watch detail local  $(V, E)$  pairs distributed condition, or zooming out to watch global  $(V, E)$  pairs distributed condition on said monitor screen.

19. A method for display data compression techniques by different light intensity and/or different patterns on a monochrome viewpoint, comprising :

displaying  $(V, E)$  pairs on an initial  $V-E$  plain shown on a monitor screen to observe the said initial  $(V, E)$  pairs distributed condition, wherein said  $V$  indicates nodes that represent components of said circuit and wherein said  $E$  indicates edges that represents the nets of said circuits;

setting  $L$  nodes  $\times$   $W$  edges  $(V, E)$  pairs rectangle region to compose a block, wherein said  $L$  and  $W$  are integers;

defining the less  $(V, E)$  pairs in said block to be displayed by the relatively high light intensity to the more  $(V, E)$  pairs in said block; and

watching relatively large size of  $V-E$  plain or a whole  $V-E$  plain to said initial  $(V, E)$  plain on said monitor screen, wherein said exact  $(V, E)$  pairs positions still be held, thereby zooming in said  $V-E$  plain to watch detail local  $(V, E)$  pairs distributed condition, or zooming out to watch global  $(V, E)$  pairs distributed condition on said monitor screen.

20. A method for display data compression techniques by different color and/or different patterns on a monochrome viewpoint, comprising :

displaying  $(V, E)$  pairs on an initial  $V-E$  plain shown on a monitor screen to observe the said initial  $(V, E)$  pairs distributed condition, wherein said  $V$  indicates nodes that represent components of said circuit and wherein said  $E$  indicates edges that represents the nets of said circuits;

setting  $L$  nodes  $\times$   $W$  edges  $(V, E)$  pairs rectangle region to compose a block, wherein said  $L$  and  $W$  are integers;

defining the more  $(V, E)$  pairs in said block to be displayed by the relatively bright color to the less  $(V, E)$  pairs in said block; and

watching relatively large size of  $V-E$  plain or a whole  $V-E$  plain to said initial  $(V, E)$  plain on said monitor screen., wherein said exact  $(V, E)$  pairs positions still be held, thereby zooming in said  $V-E$  plain to watch detail local  $(V, E)$  pairs distributed condition, or zooming out to watch global  $(V, E)$  pairs distributed condition on said monitor screen.

21. A method for display data compression techniques by different color and/or different patterns on a monochrome viewpoint, comprising :

displaying  $(V, E)$  pairs on an initial  $V-E$  plain shown on a monitor screen to observe the said initial  $(V, E)$  pairs distributed condition, wherein said  $V$  indicates nodes that represent components of said circuit and wherein said  $E$  indicates edges that represents the nets of said circuits;

setting  $L$  nodes  $\times$   $W$  edges  $(V, E)$  pairs rectangle region to compose a block, wherein said  $L$  and  $W$  are integers;

defining the more  $(V, E)$  pairs in said block to be displayed by the relatively bright color to the less  $(V, E)$  pairs in said block; and

watching relatively large size of  $V-E$  plain or a whole  $V-E$  plain to said initial  $(V, E)$  plain on said monitor screen, wherein said exact  $(V, E)$  pairs positions still be held, thereby zooming in said  $V-E$  plain to watch detail local  $(V, E)$  pairs distributed condition, or zooming out to watch global  $(V, E)$  pairs distributed condition on said monitor screen.